

a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

September 12, 2007

Mr. Mike Gandy SC DHEC 2600 Bull Street Columbia, South Carolina 29201

Re: SC DHEC ChemNuc GW

Work Order: 193360

Dear Mr. Gandy:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on September 10, 2007. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Jake Crook

Project Manager

Purchase Order: 605965

Enclosures

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Certificate of Analysis Report for

DHEC002 SC DHEC PO# 605965

Client SDG: 193360 GEL Work Order: 193360

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- ND The analyte concentration is not detected above the detection limit.

The above sample is reported on an "as received" basis.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by

List of current GEL Certifications as of 12 September 2007

State	Certification
Alaska	UST-062
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California	01151CA
Colorado	GenEngLabs
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA	WG-15J
Florida/NELAP	E87156
Georgia	E87156 (FL/NELAP)
Hawaii	N/A
Idaho	N/A
Illinois	200029
Indiana	C-SC-01
Kansas	E-10332
Kentucky	90129
Louisiana	03046
Maryland	270
Massachusetts	M-SC012
Michigan	9903
Nevada	SC12
New Jersey	SC002
New Mexico	FL NELAP E87156
New York	11501
North Carolina	233
North Carolina Drinking W	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania	68-00485
South Carolina	10120001/10585001/10120002
Tennessee	02934
Texas NELAP	T104704235-07-TX
U.S. Dept. of Agriculture	S-52597
US Army Corps of Engineer	N/A
Utah	8037697376 GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

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Report Date: September 12, 2007

DHEC00105

DHEC002

Project:

Client ID:

Certificate of Analysis

Company: SC DHEC

Address: 2600 Bull Street

Columbia, South Carolina 29201

Contact: Mr. Mike Gandy

Project: SC DHEC ChemNuc GW

Client Sample ID: 090707–43 Sample ID: 193360001

Matrix: Ground Water
Collect Date: 07–SEP–07 15:20
Receive Date: 10–SEP–07

Collector: Client

Parameter Qualifier Result Uncertainty DL RL Units DF AnalystDate Time Batch Method

Rad Liquid Scintillation Analysis

LSC, Tritium Dist, Liquid

Tritium U ND +/-323 574 700 pCi/L BXF1 09/11/07 1747 681879 1

The following Analytical Methods were performed

Method Description Analyst Comments

EPA 906.0 Modified

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Certificate of Analysis

Company: SC DHEC

Address: 2600 Bull Street

Columbia, South Carolina 29201

Report Date: September 12, 2007

DHEC00105

DHEC002

Project:

Client ID:

Contact: Mr. Mike Gandy

Project: SC DHEC ChemNuc GW

Client Sample ID: 090707–44 Sample ID: 193360002

Matrix: Ground Water
Collect Date: 07–SEP–07 15:30
Receive Date: 10–SEP–07

Collector: Client

Parameter Qualifier Result Uncertainty DL RL Units DF AnalystDate Time Batch Method

Rad Liquid Scintillation Analysis

LSC, Tritium Dist, Liquid

Tritium U ND +/-347 574 700 pCi/L BXF1 09/11/07 1803 681879 1

The following Analytical Methods were performed

Method Description Analyst Comments

EPA 906.0 Modified

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QC Summary

Report Date: September 12, 2007 Page 1 of 2 2600 Bull Street

Columbia, South Carolina

SC DHEC

Contact: Mr. Mike Gandy

Workorder: 193360

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Liquid Scintillation Batch 681879									
QC1201414904 193360001 DUP Tritium	U	91.1 +/-323	U	107 +/-326	pCi/L	0		N/A BXF1	09/11/07 18:36
QC1201414906 LCS Tritium	2590	+/-323		2210 +/-479	pCi/L		86	(75%-125%)	09/11/07 19:09
QC1201414903 MB Tritium			U	184 +/-334	pCi/L				09/11/07 18:20
QC1201414905 193360001 MS Tritium	2590 U	91.1 +/-323		2640 +/-505	pCi/L		102	(75%-125%)	09/11/07 18:52

Notes:

The Qualifiers in this report are defined as follows:

- Analyte is a surrogate compound
- Result is less than value reported <
- Result is greater than value reported
- The TIC is a suspected aldol-condensation product Α
- В For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BDResults are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- Η Analytical holding time was exceeded
- Value is estimated
- M if above MDC and less than LLD M
- RPD or %Recovery limits do not apply. N/A
- ND Analyte concentration is not detected above the detection limit
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier NJ
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier X
- Y QC Samples were not spiked with this compound
- ٨ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- h Preparation or preservation holding time was exceeded

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QC Summary

Workorder: 193360 Page 2 of 2

Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

[^] The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

^{*} Indicates that a Quality Control parameter was not within specifications.

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age:	GEL Chain of	f Custody and Analytical Request	id Ans	alyti	sal Re	dne	ij	2040 Sa	2040 Savage Road		
10jett #.				•		ď		Charlest	Charleston, SC 29407		
 	GEL Work Order Number:	193760						Phone: (Fax: (84	Phone: (843) 556-8171 Fax: (843) 766-1178		
	Phone #:	000 Call Can	-	Sam	Sample Analysis Requested (5)	is Requ		ill in the m	umber of con	(Fill in the number of containers for each test)	(t)
SC UNEC		805 241-5057	F	,		· -	-				
Boject/Site Name: CHEM - VILLEAR	Fax #:	803 - 259 - 439 Should this	Should this							< Preservative Type (6)	ve Type (6)
Address: Cor. 1 8105 (1980) 1990	coln sc	29201	considered:	it conti	u						4
Collected by:	77.00		pəı		NZ	_				Note: extra sample is	sample is
T	7				<u> </u>					required for sample	r sample
Sample ID	Collected (Military)	QC Code Field Sample (2) Filtered (3) Matrix (4)	E or		,W,					specific QC	၁၀ ၁
* For composites - indicate start and stop date/time	\dashv		+		?	1	 -				
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TAT Requested: Normal: Rush: Specify:	(Subject to Surcharge) Fax I	Fax Results: Yes /	ν̈́	Cir	Circle Deliverable: C of A	ble: Co	~	QC Summary /	Level 1 /	Level 2 / Level 3	/ Level 4
y known hazards	o these samples? If so, p	lease list the hazards							Sample	Sample Collection Time Zone	431
									Central	.5	-
Chain of Custody Signatu	ody Signatures					S	ample Shi	ping and	Sample Shipping and Delivery Details	tails	
Relinquished By Signed) Date Time	No.	Date Time	5	GEL PM:					:		
er Hall outen	Mad 9-10-01	01 /4 bB	-	Method of Shipment:	ioment:			Date Shipped:	ipped:		
11/1000	. Direlly oe	91007	1	Airhill#							
2 1 1 10 10 10 10 10 10 10 10 10 10 10 10	3		1	Airbill #:					8		
1) Chain of Custody Number = Client Determined 1.) Chain of Custody Number = Client Determined 1.) Chain of Custody Number = Client Determined 1.) Chain of Custody Number = Client Determined Fig. 1. Client	D - Equipment Block MC = Matrix	S virte Manne MCD = Matrix	Snike Dunlicate	Samule G	= Crab C = C	omnosile				For Lab Receiving Use Only	Use Only
2.) QC Codes: N = Normal Sample, 19 1119 brains, 19 1 for yes the sample was field filtered or - N - for sample was not field filtered. 3.) Field Filtered: For liquid mairices, indicate with a - Y - for yes the sample was field filtered.	was field filtered or - N - for sample	was not field filtered.		-						Custody Seal Intact?	ntact?
4.) Matrix Codes: DW=Drinking Water, GW=Groundwater, SW=Surface Water, WW=Water, W=Water, SO=Soil, SD=Sediment, SL=Sludge, SS=Solid Water, O=Oil, F=Filter, P=Wipe, U=Urine, F=Fecal, N=Nasal	er, WW=Waste Water, W=Water, S	SO=Soil, SD=Sediment, SL=Slud	dge. SS=Solid \	Vaste, 0=0	I, F=Filter, P=	Wipe. U=L	rine, F≃Fecal.	N=Nasal		YES Coolow To	NO
5.) Sample Analysis Requested: Analytical method requested (i.e. 8200B, 0010B)/4/0A) and number of containers provided to each (i.e. 0200B - 3, 0010B)/4/0A - 11.	JB/ /4/0A) and number of containers in Hydroxide, SA = Sulfuric Acid, A	s provided for each (i.e. ozona - .A = Ascorbic Acid, HX = Hexan	ne, ST = Sodiur	n Thiosulfat	e, If no preserv	ative is add	ed = leave field	l blank		7.4°	L'emp.
6.) Preservative type: HA = rymocinois received: WHITE = LABORATORY	RATORY	YELLOW = FILE	E	PIN	PINK = CLIENT	L			Ţ		



SAMPLE RECEIPT & REVIEW FORM

Client: DHEC					RCOC/Work Order: 193360
Received By: TG Da					ceived: 09/007
Su	spected Hazard Information	Yes	No		c2 area background on samples not marked "radioactive", contact Safety Group of further investigation.
CC	OC/Samples marked as radioactive?			aximum Co	unts Observed*:
	assified Radioactive II by RSO?		/		
	OC/Samples marked containing PCBs?		/		
	pped as a DOT Hazardous?		/	zard Class	Shipped: UN#:
Sa	mples identified as Foreign Soil?				,
	Sample Receipt Criteria	Yes	NA	`	mments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?			Circle App	licable: seals broken darnaged container leaking container other (describe)
2	Samples requiring cold preservation within (4 +/- 2 C)?			Preservati 24	on Method: ice bags blue ice dry ice none other (describe) Cardbox & Bubble wrap
3	Chain of custody documents included with shipment?				
4	Sample containers intact and sealed?			Circle App	licable: seals broken darnaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?				ion added, Lot#:
76	VOA vials free of headspace (defined as < 6mm bubble)?			Sample ID's	and containers affected:
7	Are Encore containers present?			(If yes, imn	ediately deliver to Volatiles laboratory)
8	Samples received within holding time?	/		Id's and test	s affected:
9	Sample ID's on COC match ID's on bottles?			Sample ID's	and containers affected:
10	Date & time on COC match date & time on bottles?	/		Sample ID's	affected:
	Number of containers received match number indicated on COC?		-	Sample ID's	affected:
	COC form is properly signed in relinquished/received sections?				
Con	nments:				

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PM (or PMA) review: Initials

No non conformance reports were generated for this work order